

Serial No.: 10/798,131  
Fifth Supplemental Preliminary Amendment  
Gibbons Docket No.: 105942-53917  
(Former Docket No.: 5677-211)

### Amendments to the Claims

This listing of claims replaces all prior listings of claims in this application.

Claims 1-58 (canceled)

Claim 59 (currently amended) A process for preparing a partially protected procyanidin dimer which comprises the steps of:

- (a) protecting each phenolic hydroxyl group of an epicatechin or a catechin monomer;
- (b) activating the monomer from step (a) by introducing an acyloxy group at the ~~4~~ C-4 position; and
- (c) catalytically coupling the monomer from step (b) with an unprotected epicatechin or an unprotected catechin monomer, optionally having ~~an 8-halo~~ a halo blocking group at the C-8 position, to form a partially protected procyanidin dimer ~~wherein~~ where the top mer is protected, where the bottom mer is unprotected, and where the bottom mer may have the halo blocking group.

Claim 60 (currently amended) The process of Claim 59, wherein the unprotected monomer of step (c) has no ~~8-halo~~ blocking group and wherein the partially protected dimer has a 4→8 linkage.

Claim 61 (currently amended) The process of Claim 59, wherein the monomer of step (c) has ~~an 8-halo~~ the blocking group and wherein the partially protected dimer has a 4→6 linkage ~~and a 8-halo group~~ the halo blocking group on the bottom mer.

Claim 62 (previously presented) The process of Claim 59, wherein the protecting groups are the benzyl groups and wherein the protecting step is carried out with benzyl bromide in dimethyl formamide or dimethyl acetamide.

Claim 63 (currently amended) The process of Claim 59, wherein the protecting groups are the p-methoxy benzyl groups and the protecting step is carried out with p-methoxybenzyl chloride in dimethyl formamide.

Claim 64 (previously presented) The process of Claim 62, wherein the protecting step is carried out in the presence of potassium carbonate or potassium iodide.

Serial No.: 10/798,131  
Fifth Supplemental Preliminary Amendment  
Gibbons Docket No.: 105942-53917  
(Former Docket No.: 5677-211)

Claim 65 (previously presented) The process of Claim 59, wherein the activating step is carried out using as an oxidizing agent a lead salt selected from the group consisting of lead acetate, lead formate, and lead propionate in a solvent selected from the group consisting of benzene, toluene, chlorobenzene, cyclohexane, heptane, carbon tetrachloride, and mixtures thereof.

Claim 66 (previously presented) The process of Claim 65, wherein the lead acetate is used in combination with acetic acid; wherein the lead formate is used in combination with formic acid; wherein the lead propionate is used in combination with propionic acid; and wherein the solvent in the activating step is benzene-acetic acid.

Claim 67 (previously presented) The process of Claim 59, wherein the catalyst used in the coupling step is a Lewis acid selected from the group consisting of lithium bromide and lithium iodide.

Claim 68 (currently amended) A process for preparing a linear procyanidin oligomer having 4→8 linkages, which process comprises the steps of:

(a) preparing a partially protected 4→8 procyanidin dimer ~~wherein~~ where the phenolic hydroxyl groups of the top mer are protected with a removable protecting ~~group~~ groups which ~~does~~ do not deactivate the A ring of the protected mer and where the phenolic hydroxyl groups of the bottom mer are unprotected;

(b) masking the dimer of step (a) with removable masking groups which deactivate the bottom mer to form a dimer ~~wherein~~ where the phenolic hydroxyl groups of the top mer are protected, ~~wherein~~ where the phenolic hydroxyl groups of the bottom mer are masked, and ~~wherein~~ where the hydroxyl groups at the 3 C-3 positions of both mers are masked;

(c) deprotecting the dimer of step (b) to form a dimer ~~wherein~~ where the phenolic hydroxyl groups of the top mer are unprotected, ~~wherein~~ where the phenolic hydroxyl groups of the bottom mer are masked, and ~~wherein~~ where the hydroxyl groups at the 3 C-3 positions of both mers are masked;

(d) catalytically coupling the dimer of step (c) with a protected catechin monomer or a protected epicatechin monomer having an acyloxy activating group at the 4 C-4 position to form a 4→8

Serial No.: 10/798,131  
 Fifth Supplemental Preliminary Amendment  
 Gibbons Docket No.: 105942-53917  
 (Former Docket No.: 5677-211)

trimer ~~wherein~~ where the phenolic hydroxyl groups of the top mer are protected, ~~wherein~~ where the phenolic hydroxyl groups of the middle mer are unprotected, ~~wherein~~ where the phenolic hydroxyl groups of the bottom mer are masked, and ~~wherein~~ where the hydroxyl groups at the 3 C-3 positions of the middle and the bottom mers are masked.

Claim 69 (currently amended) The process of Claim 67 68, further comprising the step(s) of demasking and/or deprotecting the trimer of step (d).

Claim 70 (currently amended) The process of Claim 68, which process further comprises the steps of:

(e) masking the trimer of step (d) to form a trimer ~~wherein~~ where the phenolic hydroxyl groups of the top mer are protected, ~~wherein~~ where the phenolic hydroxyl groups of the middle and bottom mers are masked, and ~~wherein~~ where the hydroxyl groups at the 3 C-3 positions of all the mers are masked;

(f) deprotecting the trimer of step (e) to form a trimer ~~wherein~~ where the phenolic hydroxyl groups of the top mer are unprotected, ~~wherein~~ where the phenolic hydroxyl groups of the middle and bottom mers are masked, and ~~wherein~~ where the hydroxyl groups at the 3 C-3 positions of all the mers are masked; and

(g) catalytically coupling the trimer of step (f) with a protected catechin monomer or a protected epicatechin monomer having an acyloxy activating group at the -4 C-4 position to form a ~~partially-protected~~ 4→8 tetramer[[: wherein]] where the phenolic hydroxyl groups of the top mer are protected, ~~wherein~~ where the phenolic hydroxyl groups of the middle mers and the bottom ~~mers~~ mer are masked, and ~~wherein~~ where the hydroxyl groups at the 3 C-3 positions of the middle mers and the bottom ~~mers~~ mer are masked; and

(h) optionally repeating the masking, deprotecting, and coupling steps to form a higher oligomer.

Serial No.: 10/798,131  
Fifth Supplemental Preliminary Amendment  
Gibbons Docket No.: 105942-53917  
(Former Docket No.: 5677-211)

Claim 71 (previously presented) The process of Claim 70, further comprising the step(s) of demasking and/or deprotecting the tetramer of step (g) or higher oligomer of step (h).

Claim 72 (currently amended) The process of Claim 70, wherein the higher oligomers include ~~tetramers~~ pentamers through dodecamers.

Claim 73 (currently amended) The process of Claim 70, wherein the higher oligomers are the pentamers ~~oligomers include pentamers~~.

Claims 74 to 89 (canceled)